DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A18CE
Revision 11
ALEXANDRIA
AIRCRAFT
17-30A
17-31A
17-31ATC
May 30, 2002

TYPE CERTIFICATE DATA SHEET NO. A18CE

This data sheet which is a part of Type Certificate A18CE prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Alexandria Aircraft LLC
2504 Aga Drive
Alexandria, Minnesota 56308

Type Certificate Holder Record: Bellanca Aircraft Corp. transferred TC A18CE to Viking Aviation, Inc. on March 26, 1982.
Viking Aviation, Inc. transferred TC A18CE to Bellanca, Inc. on June 11, 1982.
Bellanca, Inc. transferred TC A18CE to Alexandria Aircraft LLC on May 30, 2002.

I - Model 17-31A, 4 PCLM (Normal Category), Approved October 31, 1969

Engine
Lycoming IO-540-G1B5, -G1E5, or -G1F5
or Lycoming IO-540-K1E5, -K1B5, or -K1A5
Lycoming IO-540-G1B5, or -G1E5 or G1F5
For all operations, 2575 r.p.m. (290 hp.)
Lycoming IO-540-K1E5, -K1B5, or -K1A5
For all operations, 2700 r.p.m. (300 hp.)

Propeller and Propeller Limits
Propeller - Hartzell Constant Speed
(1) (a) Hub model HC-C3YR-1 blade model 8468-6R or
Hub model HC-C3YR-1RF and blade model F8468A-6R
Pitch setting at 30 in. sta.: low 13.0° high 38°
Diameter: not over 80 in., not under 78 in.
(b) Spinner and dome - Hartzell model C3552-1
or (2) (a) Hub model HC-C2YK-1BF and blade model F8475D-4
or HC-C2YR-1BF and blade model F8475D-4
Pitch setting at 30 in. sta.: low 13.5° high 38°
Diameter: not over 80 in., not under 78 in.
(b) Spinner and dome - Hartzell model A3519

Governor
Woodward model B210460 or 2010681 with Lycoming IO-540-G1B5, -G1E5 or -G1F5
Woodward model A210681 with Lycoming IO-540-K1E5, -K1B5 and -K1A5
Edo Aire model 34-828-014-1 with Lycoming IO-540-K1A5, -K1B5, K1E5 except serial numbers ending with "A"
Edo Aire model 34-828-014-3 with Lycoming IO-540-K1E5 serial number ending with "A"

Fuel
100/130 Minimum grade aviation gasoline

Airspeed Limits

Never exceed	226 m.p.h. (197 knots) CAS
Maximum structural cruising	190 m.p.h. (165 knots) CAS
Maneuvering	148 m.p.h. (128 knots) CAS
Flaps extended	120 m.p.h. (104 knots) CAS
Landing gear extended (gear doors not installed)	167 m.p.h. (145 knots) CAS

For airplane serial numbers up to and including 78-32-172

I - Model 17-31A (cont'd)

	(gear doors not installed)	144 m.p.h. (125 knots) CAS
	Landing gear operation	140 m.p.h. (122 knots) CAS
	For airplane serial numbers beyond, but excluding, 78-32-172	
	(gear doors installed)	160 m.p.h. (139 knots) CAS
	Landing gear operation	160 m.p.h. (139 knots) CAS

C.G. Range (landing gear extended)
+22.0 in. to +23.5 in. at 3325 lb.
+19.0 in. to +24.0 in. at 3200 lb.
+16.0 in. to +24.0 in. at 2450 lb. or less
Straight line variation between points given

Empty Wt. C.G. Range: None

Maximum Weight: 3200 lb. or 3325 lb. (See Note 4)

No. of Seats: 4 · (2 at c.g. arm of 20 in. at 2 at c.g. arm of 53 in.)

Maximum Baggage: 186 lb. max. at c.g. arm of 84.0 in. (See loading schedule)

Ski-tube: 20 lb. maximum at c.g. arm of 156.4 in. (See loading schedule)

Fuel Capacity

Tank	Capacity gal.	Usable gal.	Arm
S/N 32-15 thru 32-93			
L + R main	19	15	+29
L + R aux.	17	17	+29
	Optional		
L + R main	19	15	+29
L + R aux.	17	17	+29
Fuselage aux.	20	20	+72
S/N 73-32-94 thru 73-32-102			
L + R main			
L + R aux.	19 ea.	15 ea.	+29
	17 ea.	17 ea.	+29
	Optional		
L + R main	19 ea.	15 ea.	+29
L + R main	17 ea.	17 ea.	+29
Fuselage	15	15	+72
S/N 73-32-103 and up			
L + R main	34 ea.	30 ea.	+29
	Optional		
L + R main	34 ea.	30 ea.	+29
Fuselage aux.	15	15	+72

(See Note 1 for unusable fuel)

Oil Capacity: 12 qt. total, 9 qt. unusable (See Note 1 for data on undrainable oil)

Control Surface Movements (within ± 1°)

Elevator trim tab	Up	7°	Down	34.5°
Elevator	Up	22°	Down	15°
Aileron	Up	20°	Down	20°
Rudder	Left	22°	Right	22°
Flaps			Down	46± 2°

Serial Nos. Eligible: 32-15 and on

II - Model 17-31ATC, 4 PCLM (Normal Category), Approved October 31, 1969

Engine	For serial numbers 31004 thru 74-31107 Lycoming IO-540-G1E5 or -G1F5 with two (2) Rajay model 315A10-2 turbochargers per STC SE6WE or Lycoming IO-540-K1E5, -K1B5, or -K1A5 with two (2) Rajay model 315A10-2 turbochargers per STC SE6WE For serial number 75-31108 and up Lycoming IO-540-K1E5 with two (2) Rajay 315F10-2 turbochargers per STC SE6WE		
Engine limits	Lycoming IO-540-G1E5 or -G1F5 with two (2) Rajay model 315A10-2 turbochargers per STC SE6WE Normally aspirated: For all operations, 2575 r.p.m. (290 hp.) Turbocharged (Manual control): For all operations, 2400 r.p.m. and 27 in. Hg. (250 hp.) Turbocharger used only with throttle full open Lycoming IO-540-K1E5, -K1A5 or -K1B5 with two (2) Rajay model 315A10-2 turbochargers per STC SE6WE Normally aspirated: For all operations, 2700 r.p.m. (300 hp.) Turbocharged (Manual control): For all operations, 2400 r.p.m. and 27.0 in. Hg. (250 hp.) Turbocharger used only with throttle full open Lycoming IO-540-K1E5 with two (2) Rajay model 315F10-2 turbochargers per STC SE6WE Normally aspirated: For all operations, 2700 r.p.m. (300 hp.) Turbocharged (Automatic control): Takeoff (5 minutes) 29.5 in. Hg. and 2700 r.p.m. Maximum Continuous 27.0 in. Hg. and 2400 r.p.m.		
Propeller and Propeller Limits	Propeller - Hartzell Constant Speed (1) (a) Hub model HC-C3YR-1, blade model 8468-6R or Hub model HC-C3YR-1RF and blade model F8468A-6R Pitch setting at 30 in. sta: low 13°, high 38° Diameter: Not over 80 in. not under 78 in. (b) Spinner and dome - Hartzell model C3552-1		
Governor	Woodward model B210460 or 2010681 with Lycoming IO-540-G4B5, -G1E5 or -G1F5 Woodward model A210681 with Lycoming IO-540-K1E5, -K1B5 and -K1A5 Edo Aire model 34-828-014-1 with Lycoming IO-540-K1A5, -K1B5, K1E5 except serial number ending with "A" Edo Aire model 34-828-014-3 with Lycoming IO-540-K1E5 serial number ending with "A"		
Fuel	100/300 minimum grade aviation gasoline		
Airspeed Limits	Never exceed	226 m.p.h.	(197 knots) (CAS)
Below 15,000 ft.	Maximum structural cruising	190 m.p.h.	(165 knots) (CAS)
	Maneuvering	148 m.p.h.	(128 knots) (CAS)
	Flaps extended	120 m.p.h.	(104 knots) (CAS)
	Landing gear extended (gear doors not installed)	167 m.p.h.	(145 knots) (CAS)
	For airplane serial numbers up to and including 79-31155 (gear doors installed)	144 m.p.h.	(125 knots) (CAS)
	Landing gear operation	140 m.p.h.	(122 knots) (CAS)
	For airplane serial numbers beyond, but excluding, 79-31155 (gear doors installed)	160 m.p.h.	(139 knots) (CAS)
	Landing gear operation	160 m.p.h.	(139 knots) (CAS)
Above 15,000 ft.	Same as below 15,000 ft. except		
	Never exceed	200 m.p.h.	(172 knots) (CAS)
	Maximum structural cruising	165 m.p.h.	(144 knots) (CAS)
Maximum operating altitude	24,000 ft.		

II - Model 17-31ATC (cont'd)

C.G. Range (landing gear extended)
+22 in. to +23.5 in. at 3325 lb.
+19.0 in. to +24.0 in. at 3200 lb.
+16.0 in. to +24.0 in. at 2450 lb. or less
Straight line variation between points given.

Empty weight C.G. range: None

Maximum Weight: 3200 lb. or 3325 lb. (See Note 4)

No. of Seats: 4 (2 at c.g. arm of 20 in. and 2 at c.g. arm of 53 in.)

Maximum Baggage: 186 lb. max. at c.g. arm of 84.0 in. (See loading schedule)

Ski-tube: 20 lb. max. at c.g. arm of 156.4 in. (See loading schedule)

Fuel Capacity

Tank	Capacity gal.	Usable gal.	Arm
S/N 31004 thru 31042			
L + R main	19 ea.	15 ea.	+29
L + R aux.	17 ea.	17 ea.	+29
	Optional		
L + R main	19 ea.	15 ea.	+29
L + R aux.	17 ea.	17 ea.	+29
Fuselage aux.	20	20	
S/N 73-31043 thru 73-31046			
L + R main	19 ea.	15 ea.	+29
L + R aux.	17 ea.	17 ea.	+29
	Optional		
L + R main	19 ea.	15 ea.	+29
L + R aux.	17 ea.	17 ea.	+29
Fuselage aux.	15	15	
S/N 73-31047 and up			
L + R main.	34 ea.	30 ea.	+29
	Optional		
L + R main	34 ea.	30 ea.	+29
Fuselage aux.	15	15	+72

(See Note 1 for unusable fuel)

Oil Capacity: 12 qt. total, 9 qt. usable *(See Note 1 for data on undrainable oil)*

Control Surface Movements (within ± 1°)

Elevator trim tab	Up	7°	Down	34.5°
Elevator	Up	22°	Down	15°
Aileron	Up	20°	Down	20°
Rudder	Left	22°	Right	22°
Flaps			Down	46° ± 2°

Serial Nos. Eligible: 30004, 31004 and on

III - Model 17-30A, 4 PCLM (Normal category), Approved December 12, 1969

Engine — Continental IO-520-K
Or Continental IO-550-F

Engine limits

Continental IO-520-K
Takeoff power is 2850 r.p.m. (300 hp.) (5 minutes maximum)
Maximum continuous operation is 2700 r.p.m. (285 hp.)

Continental IO-550-F
Takeoff Power is 2700 r.p.m. full throttle (300 hp.)
(5 minutes maximum)
Maximum continuous is 2700 r.p.m. at 26.6 in.Hg. manifold pressure
(285 hp).

Propeller and propeller limits

1. McCauley Constant Speed with IO-520-K engine
   (a) Hub model D3A32C90, blade model 82NC-4
   Pitch settings at 30 in. sta.
   Low 11.7°± 0.2°, High 28.1°± 0.5°
   Diameter: Not over 78 in., not under 76 in.
   (b) Spinner and dome - McCauley model D3669 or D3867
2. McCauley Constant Speed with IO-520-K engine
   (a) Hub model D3A34C401, blade model 90DFA-12
   Pitch settings at the 36 in. sta.
   Low 10.0°± 0.2°, High 28.5° ± 0.5°
   Diameter: Not over 78 in., not under 76 in.
   (b) Spinner and dome - McCauley model D3669, D3867 or D5027
3. McCauley Constant Speed with IO-520-K engine
   (a) Hub model D2A34C58, blade model 90AT-10
   Pitch settings at 36 in. sta.
   Low 8.2°+0.1°, High 27.3° ± 0.5°
   Diameter: Not over 80 in., not under 78 in.
   (b) Spinner and dome - McCauley model D2771 or D3766
4. Hartzell Constant Speed with IO-520-K engine
   (a) Hub model HC-C3YF-1, blade model 8468-8R
   Pitch settings at 30 in. sta.
   Low 10.0°, high 32.5°
   Diameter: Not over 78 in., not under 77 in.
   (b) Spinner and dome - Hartzell model C3535-1
5. Hartzell Constant Speed with IO-520-K engine
   (a) Hub model Hc-C2YF-1B, blade model 8475-6
   Pitch settings at 30 in. sta.
   Low 11.1°, High 36.2°
   Diameter: Not over 78 in., not under 77 in.
   (b) Spinner and dome - Harzell model C3535-1
6. Hartzell Constant Speed with IO-520-K engine
   (a) Hub model HC-C3YF-1RF, blade model F8468A-8R
   Pitch settings at 30 in. sta.
   Low 10.0, High 32.5°
   Diameter: Not over 78 in., not under 76 in.
   (b) Spinner and dome - Hartzell model 3535-1
7. Hartzell Constant Speed with IO-520-K engine
   (a) Hum model HC-C2YF-1BF, blade model F8475-6
   Pitch settings at 30 in. sta.
   Low 11.1°, High 36.2°
   Diameter: Not over 78 in., not under 77 in.
   (b) Spinner and dome - Hartzell model C3535-1
8. McCauley Constant Speed with IO-550-F engine
   (a) Hub model D3A34C401, blade model 90DFA-10
   Pitch settings at the 36 in. sta.
   Low 11.8°± 0.2°, High 28.5° ± 0.5°
   Diameter: Not over 80 in., not under 78 in.
   (b) Spinner and dome - McCauley model D5027

III - Model 17-30A (cont'd)

Governor

IO-520-K engine
Woodward models P210452, 210685, G210760 or Edo Aire model 34-828-01-02

IO-550-F engine
Woodward model F210760D

Fuel

100/130 or 100/100LL minimum grade aviation gasoline

Airspeed Limits

Never exceed	226 m.p.h.	(197 knots) (CAS)
Maximum structural cruising	190 m.p.h.	(165 knots) (CAS)
Maneuvering	148 m.p.h.	(128 knots) (CAS)
Flaps extended	120 m.p.h.	(104 knots) (CAS)
Landing gear extended (gear doors not installed)	167 m.p.h.	(145 knots) (CAS)
For airplane serial numbers up to but not including 89-301004		
(gear doors installed)	144 m.p.h.	(125 knots) (CAS)
Landing gear operation	140 m.p.h.	(122 knots) (CAS)
For airplane serial numbers 89-301004 and up		
(gear doors installed)	160 m.p.h.	(139 knots) (CAS)
Landing gear operation	160 m.p.h.	(139 knots) (CAS)

C.G. Range (landing gear extended)

+22 in. to +23.5 in. at 3325 lb.
+19.0 in. to +24.0 in. at 3200 lb.
+16.0 in. to +24.0 in. at 2450 lb. or less
Straight line variation between points given.

Empty weight C.G. range

None

Maximum Weight

3200 lb. or 3325 lb. (See Note 4)

No. of Seats

4 (2 at c.g. arm of 20 in. and 2 at c.g. arm of 53 in.)

Maximum Baggage

186 lb. max. at c.g. arm of 84.0 in. (See loading schedule)

Ski-tube

20 lb. max. at c.g. arm of 156.4 in. (See loading schedule)

Fuel Capacity

Tank	Capacity gal.	Usable gal.	Arm
S/N 30263 thru 30486			
L + R main	19 ea.	15 ea.	+29
L + R aux.	17 ea.	17 ea.	+29
	Optional		
L + R main	19 ea.	15 ea.	+29
L + R aux.	17 ea.	17 ea.	+29
Fuselage aux.	20	20	+72
S/N 73-30487 thru 73-30514 except 73-30498			
L + R main	19 ea.	15 ea.	+29
L + R aux.	17 ea.	17 ea.	+29
	Optional		
L + R main	19 ea.	15 ea.	+29
L + R aux.	17 ea.	17 ea.	+29
Fuselage aux.	15	15	+72
S/N 73-30498 and 73-30515 up			
L + R main.	34 ea.	30 ea.	+29
	Optional		
L + R main	34 ea.	30 ea.	+29
Fuselage aux.	15	15	+72
S/N 76-30824, 89-301004 and up			
L + R main	36 ea.	34.5 ea.	+29
Fuselage aux.	15	15	+72

(See Note 1 for unusable fuel)

III - Model 17-30A (cont'd)

Oil capacity	12 qt. total, 9 qt. useable. (See Note 1 for data on undrainable oil)				
Control Surface Movements (within ± 1°)	Elevator trim tab	Up	7°	Down	34.5°
	Elevator	Up	22°	Down	15°
	Aileron	Up	20°	Down	20°
	Rudder	Left	22°	Right	22°
	Flaps			Down	46° ± 2°
Serial Nos. Eligible	30263 and on				

Data pertinent to All Models

Datum
Leading edge of Rib No. 1 (23.5 in. outboard of airplane center line for reference:)
(1) Datum is 10.75 in. forward of fuselage station;
(2) Forward face of firewall is 17.05 in. forward of datum, when aircraft is leveled.

Leveling means
Lugs at fuselage stations 2 and 3 in cabin on right side (wing spar station).

Certification basis
Part 23 of the Federal Aviation Regulations dated February 1, 1965, as amended by 23-1 thru 23-6.
Application for Type Certificate dated May 5, 1969.
Type Certificate No. A18CE issued October 31, 1969.

Production basis
17-31A S/N's 32-15 thru 75-32-156
None. Prior to original certification of each aircraft, an FAA representative must perform a detailed inspection for workmanship, materials and conformity with approved technical data and a check of the flight characteristics.

17-31ATC S/N's 31004 thru 75-31111
None. Prior to original certification of each aircraft, an FAA representative must perform a detailed inspection for workmanship, materials and conformity with approved technical data and a check of the flight characteristics.

Production basis (cont'd)
17-30A S/N's 30263 thru 75-30765
None. Prior to original certification of each aircraft, an FAA representative must perform a detailed inspection for workmanship, materials and conformity with approved technical data and a check of the flight characteristics.

17-31A S/N's 75-32-157 and up
Production certificate No. 1GL is applicable.

17-31ATC S/N's 75-31112 and up
Production certificate No. 1GL is applicable

17-30A S/N's 75-30766 and up
Production certificate No. 1GL is applicable.

Equipment
The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:
(1) Stall warning indicator, Safe Flight Model R.
(2) FAA Approved Airplane Flight Manual.

NOTE 1. Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions, must be in each aircraft at the time of original certification. A copy of the approved loading instructions should be posted inside the baggage compartment at all times.

The model 17-31A certificated empty weight and corresponding center of gravity location must include unusable fuel of 48 lb. at +29 and 1 lb. at +72, and undrainable oil of 3.0 lb. at -42.

The model 17-31ATC certificated empty weight and corresponding center of gravity location must include unusable fuel of 48 lb. at +29 and 1 lb. at +72, and undrainable oil of 3.7 lb. at -42.

The model 17-30A, except S/N 76-30824, 89-301004 and up; certificated empty weight and corresponding center of gravity location must include unusable fuel of 48 lb. at +29 and 1 lb. at +72, and undrainable oil of 3.0 lb. at -41. S/N 76-30824, 89-301004 and up; certificated empty weight and corresponding center of gravity location must include unusable fuel of 18 lb. at +29 and 1 lb. at +72, and undrainable oil of 3.0 lb. at -41.

NOTE 2. All placards specified in the appropriate FAA Approved Flight Manual must be displayed.

NOTE 3. No life limited structural components.

NOTE 4. Models 17-30A, 17-31A and 17-31ATC airplanes are eligible to be operated at 3325 lbs. gross weight when Bellanca Placards (Bellanca Drawing Nos. 196880 and 196883) are installed and complied with, and the appropriate FAA Approved Airplane Flight Manual is in the airplane.

NOTE 5. Model 17-30, Serial Number 30004 as originally approved under Type Certificate number 1A3 is now converted to Model 17-30ATC, Serial Number 30004 and approved under Type Certificate number A18CE

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